

In the Claims:

Claims 1 – 96 (Canceled).

Claim 97. (NEW) A new method for the quantification of ligand binding to a surface,

5 using hapten-conjugated ligands, comprising:

[a] applying a hapten-ligand, comprising a ligand possessing an antibody-recognizable hapten, onto said surface, and,

[b] waiting for a period of time, so as to allow a binding of said hapten-ligand to said surface, thereby producing bound ligand, and,

10 [c] removing any unbound hapten-ligand, from said surface, and,

[d] solubilizing said bound ligand, thereby producing a lysate, and,

[e] applying onto a membrane,

[1] said lysate, and,

[2] standards, comprising solutions containing increasing levels of

15 known amounts of the hapten-ligand,

thereby producing membrane-bound hapten-ligand and,

[f] applying onto said membrane-bound hapten-ligand,

[1] an enzyme-conjugated antibody to said hapten, and,

[2] a color or light-producing substrate for said enzyme,

20 thereby producing a signal, and,

[g] comparing said signal arising from said enzyme associated with said

membrane-bound hapten-ligand arising from said standards, to the

known amount of hapten-ligand contained in said standards, thereby

producing a standard curve, and

[h] comparing said signal arising from said enzyme associated with said
membrane-bound hapten-ligand arising from said lysate, to said
standard curve, thereby quantifying the amount of the hapten-ligand
5 contained in said membrane-bound hapten-ligand arising from said
lysate,

whereby the quantifying of the amount of the membrane-bound
hapten-ligand arising from said lysate, is used to quantify the
amount of said hapten-ligand originally bound to said surface, and,
10 whereby the use of radio- labeled ligand is avoided.

Claim 98. (NEW) The method of Claim 97, wherein said applying a hapten-ligand onto
said surface, is further comprising:

[a] applying said hapten-ligand onto said surface, and,

15 [b] concomitantly applying un-conjugated ligand, comprising said ligand
which does not possess said hapten, onto said surface and,

whereby said signal arising from said lysate containing both said
hapten-ligand, and said un-conjugated ligand is compared to said
signal arising from said lysate containing said hapten-ligand only.

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Claim 99. (NEW) The method of Claim 97, wherein said applying of said lysate and said
standards onto said membrane is further comprising:

[a] the separating of said lysate and said standards by electrophoresis, and,

[b] the applying of electrophoretically separated lysate, and

electrophoretically separated standards onto said membrane, and,

whereby the location of said signal arising from said hapten-ligand,

5 arising from electrophoretically separated lysate, on said membrane, is verified by comparing it to the location of said signal arising from electrophoretically separated standards, on said membrane.

10 Claim 100. (NEW) The method of Claim 99 wherein said method of electrophoresis is selected from the group consisting of SDS-PAGE, electrophoresis according to Schagger Von Jagow, and agarose electrophoresis.

Claim 101. (NEW) The method of Claim 97, wherein said applying of said enzyme-
15 conjugated antibody onto said membrane-bound hapten-ligand is further comprising:

[a] applying an anti-hapten antibody onto said membrane-bound hapten-ligand and,

[b] subsequently applying an enzyme-conjugated antibody to said anti-

20 hapten antibody, onto said membrane-bound hapten-ligand, and,

whereby the sensitive detecting of said membrane-bound

hapten-ligand is afforded by the use of said antibodies.

Claim 102. (NEW) The method of Claim 97, wherein said surface is comprised of
biological cells.

Claim 103. (NEW) The method of Claim 97, wherein said hapten is a compound which
5 can be specifically recognized by an antibody.

Claim 104. (NEW) The method of Claim 97, wherein said hapten is selected from the
group consisting of, fluorescein, biotin, rhodamine, and digoxigenin.

10 Claim 105. (NEW) The method of Claim 97, wherein said ligand is a biological factor.

Claim 106. (NEW) The method of Claim 97, wherein said ligand is a protein.

Claim 107. (NEW) The method of Claim 106, wherein said protein is selected from the
15 group consisting of transferrin, concanavalin A, avidin, annexin V, and
insulin.

Claim 108. (NEW) The method of Claim 97, wherein said ligand is DNA.

20 Claim 109. (NEW) The method of Claim 97, wherein said applying of said lysates and
said standards onto said membrane method includes the method of blotting.

Claim 110. (NEW) The method of Claim 109, wherein said blotting method is selected from the group consisting of electroblotting, dot blotting, slot blotting, and Western blotting.

5 Claim 111. (NEW) The method of Claim 97, wherein said membrane is a conventional transfer membrane.

Claim 112. (NEW) The method of Claim 97, wherein said membrane is selected from the group consisting of protein binding membranes, and DNA binding
10 membranes.

Claim 113. (NEW) The method of Claim 97, wherein said membrane is selected from the group consisting of nitrocellulose, and nytran.

15 Claim 114. (NEW) The method of Claim 97, wherein said enzyme is horseradish peroxidase.

Claim 115. (NEW) The method of Claim 97, wherein the quantifying of said signal, arising from said light producing substrate, on said membrane, is is further
20 comprising:

- [a] placing said membrane in contact with photographic film, and,
- [b] analyzing said signal on said photographic film using an imager.